

DOCUMENT RESUME

ED 440 079

SP 039 119

AUTHOR Kraus, Sharon; Butler, Kathy
TITLE Reflection Is Not Description: Cultivating Reflection with Pre-Service Teachers.
PUB DATE 2000-02-27
NOTE 10p.; Paper presented at the Annual Meeting of the American Association of Colleges for Teacher Education (52nd, Chicago, IL, February 26-29, 2000).
PUB TYPE Reports - Descriptive (141) -- Speeches/Meeting Papers (150)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Classroom Techniques; Elementary Secondary Education; Feedback; Foundations of Education; Higher Education; Journal Writing; Preservice Teacher Education; *Reflective Teaching; Student Teachers; Student Teaching; Teaching Methods; *Thinking Skills
IDENTIFIERS *Reflective Thinking

ABSTRACT

This paper describes a reflective thinking model for preservice teachers developed and implemented within one state college's teacher education program. It includes three specific developmental stages. During the foundation stage, students are introduced to and involved in classroom inquiry activities which include dialogue journals, "thinking outside the box" activities, connecting content area ideas with educational pedagogy, and developing a philosophy of education. During the process development stage, students are enrolled in various courses, including classroom management and specific methods courses for individual content areas. Students are actively involved in developing lesson plans in their particular content area. After presentation to the class, feedback from other students is provided for reflective consideration. Reflective journal entries are also required, with feedback from instructors provided. The reflective practice application stage (pre-student teaching/student teaching stage) requires analysis and application of various curriculum plans and designs and implementation of various instructional models. Reflective activities that were introduced in the two earlier stages are implemented in actual classroom settings. Reflective interviews, reflective journals, self-assessment, assessment of student learning, and development of next steps based on reflective assessment are implemented in this phase. The paper describes relevant courses for each stage. (SM)

AACTE Annual Conference
Chicago, Illinois
February 27, 2000

**Reflection is Not Description:
Cultivating Reflection with Pre-Service Teachers**



PERMISSION TO REPRODUCE AND
DISSEMINATE THIS MATERIAL HAS
BEEN GRANTED BY

S. Kraus

TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)

1

Dr. Sharon Kraus
Dr. Kathy Butler
Glenville State College
Glenville, West Virginia

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

- ☐ This document has been reproduced as received from the person or organization originating it.
- ☐ Minor changes have been made to improve reproduction quality.

- Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

skraus@glenville.edu

kbutler@glenville.edu

DESCRIPTION IS NOT REFLECTION: CULTIVATING REFLECTION WITH PRE-SERVICE TEACHERS

John Dewey (1933) defined reflective thinking as the “active, persistent and careful consideration of any belief or supposed form of knowledge in light of the grounds that support it (Eby, 1998). Accomplished teachers regularly analyze, evaluate and strengthen the effectiveness and quality of their practice. Every class and activity provide opportunities for reflection and improvement (NBPTS, 1998). In classrooms where teachers model questioning and reflection – searching for knowledge and reflecting on their own performance – students often seem to behave in the same way. They ask more questions, suggest more alternatives, weigh the consequences of various options, and seem more honest in their evaluations of their own performance (Eby, 1998). Schon (1987) defines the reflective practitioner as one who engages in “reflection-in-action.” Reflection gives rise to on-the-spot experiment. We think up and try out new actions, test our tentative understandings of them, or affirm the moves we have invented to change things for the better (pp.28-29). Reflective thinking is made up of many elements and indicates an individual’s willingness to explore, be curious and be assertive to gain self-awareness, self-knowledge, and new understandings of the world. It is not something that occurs easily for most of us, and it takes time to develop (Eby, 1998 p. 9).

John Dewey (1933) related that reflective thinking involves a willingness to take responsibility for one’s own actions and to deliberately make decisions based upon knowledge and practice. Schon (1987) agreed that reflection is founded in self-evaluation and experiment but also suggested that reflective behavior gives one a sense of empowerment that makes for better teachers. Reflective thinking is comprised of many elements and must be developed over time and with practice.

In “What Teachers Should Know and Be Able to Do,” one of the five core propositions of the National Board for Professional Teaching Standards (1998) states that “teachers think systematically about their practice and learn from experience.” If we expect accomplished teachers to be able to employ reflective thinking and practice, the disposition of reflective practice must be taught and cultivated in pre-service teachers.

According to Eby (1998) and Schon (1987) the development of reflection is a growth process that may be modeled and practiced. Reflective dispositions must be fostered over a period of time and in a variety of situations. However, pre-service teachers can learn reflective practices that would likely improve their teaching performances and the student learning (Eby, 1998 p. 18). A focused approach to developing reflective thinking in pre-service teachers beginning with the earliest teacher preparation classes will lead to beginning teachers who are successful, effective teachers who tend to reflect actively and productively about the important things in their careers, their educational goals, the classroom environment, and their own professional abilities (Eby, 1998).

Although reflective action does not rely on a specific model, pre-service teachers who have been exposed to a reflective model are much more likely to be successful teachers who actively engage in reflective thought and are more likely to improve their later teaching performance through the use of reflective evaluation. One carefully designed model has been created and implemented in Glenville State College's Teacher Education Program. It is composed of three specific developmental stages: Foundation Stage, Process Development Stage, and Reflective Practice Stage.

FOUNDATION STAGE

The first component in this developmental process is the Foundation Stage. During introductory courses to teacher education, students are introduced to and involved in classroom inquiry activities which include such things as dialogue journals, "thinking outside the box" activities, connecting content area ideas with educational pedagogy, developing a philosophy of education. The following sequence of courses is required of all preservice teachers:

EDUC 203 Foundations of Education - To eventually become a technically competent and self-aware teacher, the teacher candidate considers educational philosophy, theory and practice. This class provides (1) opportunities for the teacher candidate to consider the classic philosophies and models of thinking, (2) a theoretical basis for applying those general classical models to specific theories of education, (3) the opportunity to apply and further consider this theoretical base in real-life classroom culture, in both the college and public school settings, and (4) the opportunity to *consider and reflect* upon all of the above as it applies to the eventual classroom practice of the teacher candidate. *Personal reflection is fostered via classroom inquiry, discussion and a dialogue journal with the instructor.*

EDUC 205 Education Psychology - This course is designed to offer students of education the opportunity to study and apply theories of learning and to observe children in a school setting. In the process, students gain the skills necessary to function as a teacher who can synthesize psychology and classroom behavior by understanding the development of children and how they learn. The course models many styles of teaching and learning, especially models in which students are actively engaged in learning. Throughout the text, lecture, and activities, students are challenged to *reflect on the theories, opinions and applications* presented to them. Reflection should take the *form of reflection-about-practice, reflection-on-practice, and reflection-in-practice*. The teacher candidate is encouraged to reflect not only on the ideas of others but to examine their own thinking about children and classroom procedures.

PROCESS DEVELOPMENT STAGE

During the second phase or Process Development Stage, students are enrolled in a variety of courses including Classroom Management and specific methods courses for individual content areas. During this stage, students are actively involved in developing lesson plans in their particular content areas. Each course requires a number of lessons to be developed. After presentation to the class, feedback from other students in the class is provided for reflective consideration. Pre-service teachers must defend their position in choosing particular activities

and strategies. In addition, reflective journal entries are required in each of these classes with specific educational issues which must be addressed. Feedback from the instructor provides each student with additional food for thought. Two specific courses which require integration of previous coursework in developing specific classroom and lesson plans are Classroom Management and Educating the Exceptional and Culturally Diverse Student. In the Classroom Management course, students must evaluate classroom scenarios as to effective or ineffective use of strategies and develop a day's activities and plans for a specific group of students. In the Educating the Exceptional and Culturally Diverse Student course, students are required to integrate content materials, social growth and development concepts and to include appropriate techniques for inclusion as well as multicultural considerations. The following courses are taken during this Process Development Stage by teacher candidates as applicable to their particular content area preparation:

EDUC 309 Music Methods and Materials (K-4)/ EDUC 329 Music Methods and Materials (5-9)/ MUSC 359 Music Fundamental & Methods - *Music is a reflective process.* The teacher candidate plans and executes teaching activities using the GSC's Skilled and Reflective Teacher (SRT) model, *reflecting "in, on, and about" teaching music.* Developing skills and reflection are key components of teaching music.

EDUC 310 Classroom Management and Teaching Strategies - All teacher candidates participate in class activities such as *evaluating classroom scenarios* as to effective and ineffective strategies being employed. In addition, once they have received instruction in the basic qualities of effective management, they design more effective methods of dealing with the situations highlighted in the scenarios.

Additionally, teacher candidates plan a days activities consisting of five lessons in each of the following areas: reading, math, science, social studies, and one lesson of their choice. These *plans are presented* in class, with other teacher candidates in the class providing constructive feedback.

Teacher candidates are expected to maintain a *Reflective Journal*. The journal is based on five (5) newspaper articles, news reports, or any other media items related to educating children. *Teacher candidates are expected to summarize the material and then present their reaction to it.* The teacher candidate is provided with five (5) additional pieces of literature related to educating children in which they are expected to respond in the above-mentioned fashion.

EDUC 330 Teaching Physical Education in the Elementary School (K-6)/ PED 326 Physical Education in the Elementary School - The teacher candidate is given the opportunity to *reflect* upon their own educational experiences *and* discuss and define these *within the framework of teaching physical education in the elementary school.* *This course provides the teacher candidate with the skills needed to effectively instruct an elementary physical education class.*

EDUC 341 Teaching Business in Middle and Adolescent Education (5-12) - A primary emphasis in the course is on *microteaching (practice teaching)*. Each teacher education candidate who majors in comprehensive business education teaches at least one lesson in each of five areas: office procedures, alphabetic note hand, basic business and economic education, keyboarding, and accounting.

As each teacher education candidate teaches, he/she is *observed and provided informal feedback by classmates and instructor*, with the goal being constructive criticism designed to build confidence, reinforce effective strategies and techniques, and identify weaknesses. Each observer is encouraged to *reflect on his/her performance in practice teaching*. *Self-evaluation* is performed to assist the teacher education candidate in *identifying areas for improvement* for future lesson presentations. Feedback from the other observers is intended to assist the development of *reflective thinking*.

EDUC 342 Teaching Methods of English in Middle and Adolescent Education (5-12) - This course is designed to facilitate the *sharing of ideas and concerns* regarding the teaching of English. As this sharing process unfolds, each student *develops a definition and criteria for what constitutes a truly skilled English teacher* and *creates a composite model* that can be used to shape and direct their own teaching. Teacher candidates *reflect on their own clinical teaching experiences* and those of their peers through *written comment and class discussion*. This reflective process is crucial in developing the skills needed to meet the needs and maximize the success of today's school children.

EDUC 344 Teaching Physical Education in Adolescent Education (5-12) - This course provides teacher candidates with skills needed for effective classroom instruction. Students are given the opportunity to *practice reflective thinking by expressing their opinions about teaching practices they have observed or experienced*. They are asked to *critique each position presented*. (*Critical reflection*)

EDUC 345 Teaching Science in Middle and Adolescent Education (5-12) / SCNC 321 Science for Teachers (K-6) - Students construct an understanding (knowledge base) of the science education components delineated in the course description. During an 8 day residential program at the National Radio Astronomy Observatory in Green Bank, WV, students acquire proficiency in designing and implementing research experiences. While performing research activities, students acquire proficiency in utilizing process skills: i.e. making observations, classifying data, making inferences and predictions, generating hypothesis, identifying and controlling variables, collecting and analyzing data, and formulating conclusions. *Students then reflect on ways of redesigning their experiments to improve the quality of their results.*

Toward the end of the semester, students *design and implement age-appropriate research activities with public school students*. The research-based units reflect a coordinated and thematic approach to teaching science. Objectives covered are matched to the Instructional Goals and Objectives for West Virginia Schools (WVIGO). *Video taping and /or group discussions are utilized to facilitate students in reflecting on their teaching experiences*. Analysis of each week's performance is used to *re-design activities* for the subsequent week.

EDUC 347 Teaching Oral Communication in an Adolescent Setting (9-12) - Skills expected in the role of an Oral Communication teacher include the development and maintenance of a basic curriculum, management of theater and forensics programs, development of relationships with parents and community support groups, and creation of works of art in major fields of study. This course provides a framework for the training in and maintenance of professional standards by its emphasis on *self-motivation, self-critique, and reflection on new courses of action.*

EDUC 358 Middle School Art Methods for the Art Major / EDUC 360 High School Art Methods for the Art Major / ART 330 Art Methods for Elementary Education - *Art is a reflective process.* The integration of art into the public school curriculum is an important focus of these courses. Appropriate methods for teaching art are discussed and demonstrated. Teacher candidates *plan and participate in teaching activities* with public school students.

HLTH 332 Organization and Administration of School Health Programs - *Utilizing content knowledge and pedagogical knowledge* related to the field of health, teacher candidates *discuss appropriate reflective practices.* These experiences provide the teacher candidate with the opportunities to *reflect upon their own educational experiences and develop strategies for integrating these experiences into professional practices.*

MATH 301 - Teacher candidates in each of these courses develop a thorough understanding of the mathematics taught in elementary/middle school. *Candidates are exposed to several different types of teaching methods* which can be effectively used to convey an understanding of mathematics. An emphasis is placed on *making sound lesson-planning choices* vis-a-vis the recommendations of the NCTM, and on *critiquing one's own math instruction* using such questions as, "Am I recognizing opportunities to use math manipulatives, to maximize student participation, to use a guided-discovery approach, to ensure true cooperative learning?, etc. *The "why," not just the "what" of mathematics is emphasized to encourage reflection by the teacher candidate.*

READ 316 Teaching Reading in Early and Middle Childhood Education - The skilled and reflective teacher believes that learning is an active process for students and that it should be an *active process* for the teachers also. Skillful reading teachers *set goals* for reading instruction which influence the selection of materials and methods which they employ. *Interactive assessment and reflection* occur during *ongoing instruction* and that is coupled with talking to students, *providing feedback, and demonstrating and modeling instructional strategies.*

SPED 220 Educating the Student with Exceptional and Cultural Diversities - Teacher candidates are required to observe students with disabilities and *maintain a log of teaching techniques observed in the classroom.* Teacher candidates are expected to *evaluate how observed techniques might be effectively integrated* into their perceived style of educating students with exceptional needs. Based on these observations and evaluations, teacher candidates *adapt a lesson* to one or more students in the practicum placement by *creating a project pertaining to a specific skill and the students' individual needs.*

REFLECTIVE PRACTICE STAGE

The Reflective Practice Application Stage or Pre-Student Teaching/Student Teaching Stage requires the analysis and application of various curriculum plans and designs and the implementation of various instructional models. The reflective activities utilized have been introduced in the earlier two stages and are now implemented in actual classroom settings. Reflective interviews, reflective journals, self assessment as well as assessment of student learning and developing next steps based on reflective assessment are implemented in this phase of reflective development. Teacher candidates must complete the following courses in the Reflective Practice Stage:

EDUC 411 Curriculum and Assessment: Elementary (K-6) - Specific course objectives related to reflection include: (1) providing teacher candidates with emerging issues pertaining to reflection and *knowledge of reflective practice*; (2) providing teacher candidates with the opportunity to *reflect upon their own educational experiences and to relate to and discuss those experiences within the framework of Education 411 course topics*; (3) providing teacher candidates with the specific skills needed in effective classroom instruction; (4) providing opportunity to *practice reflective thinking in practicum experience* in public schools; and (5) providing a *bridge between professional pedagogy and skilled practice* within the work place; and (6) providing a greater foundation on which to *build educational philosophies, professional goals, and a knowledge base toward skilled and reflective teaching*.

EDUC 412 Curriculum and Assessment: Content (5-12) - Specific course objectives related to reflection include: (1) further exposing prospective teachers to the *theory and execution of reflective practice and applying that practice to the public school practicum experience*; (2) providing teacher candidates with *opportunities to reflect upon their own formal and informal education experiences* and, through writing and discussion, to *relate those experiences to the specific course topics of EDUC 412*; (3) enhancing specific skills necessary for effective classroom instruction; and (4) providing a broader foundation upon which to continue to *build personal educational philosophy, intended classroom practice, and professional development*.

EDUC 454, 455, 458, & 459; Student Teaching - Assessment of student teacher performance is conducted utilizing the evaluation document, PAST (Performance Assessment of Student Teaching), where four areas of competencies that must be demonstrated include: Pre-teaching, Teaching, Post-teaching and Professional competencies. Throughout their student teaching experience, candidates demonstrate reflective practices by *maintenance of a reflective journal, individual reflections on each lesson* (included within the lesson plan design), and *informally through telecommunication and talking with college supervisors and cooperating teachers*. Many students elect to *utilize electronic journaling* with their supervising teachers and *participate in electronic chat rooms* designed for GSC student teachers and college supervisors. Additionally, college supervisors meet periodically in out-of-school environment "*cluster meetings*" with groups of their student teachers for the purpose of *debriefing and discussion*. Specifically assessed within post-teaching competencies, students must *demonstrate the ability to assess and reflect upon the effectiveness of the teaching and learning process*.

Research seems to indicate that teachers who think very little are less successful and less effective in the classroom. They tend to believe that there is only one answer to questions and they have all the answers. Many believe that there is only one way to accomplish a task. These teachers appear to repeat the same behaviors from year to year, and they do not improve their teaching. Teachers must know how to break out of this mode. They must learn to question and reflect on everything related to their careers, their educational goals, the classroom environment and their own professional abilities. Teachers must learn to assess themselves by examining students' work, both the final product and the process utilized to reach the end product. Teachers must communicate with students and parents to gather useful information for the reflection process. They should seek advice and counsel from colleagues to provide additional information to assist them in identifying their strengths and weaknesses. During the reflective process this information is analyzed and then utilized in planning. Effective teachers are continual learners, open to new ideas, who modify and change as a result of their reflection (NBPTS, 1998). Current school reform calls for classroom teachers who are knowledgeable, dynamic and effective in regard to student learning. Reflection is a major component of this process. Teacher education programs must provide opportunities for pre-service teachers to develop reflective thinking models within the context of the program of study offered at the institution.

The National Board for Professional Teaching Standards were developed to strengthen the educational system in America. Accomplished teachers, among other things, examine their practice, seek to expand their repertoire, deepen their knowledge, sharpen their judgment, and adapt their teaching to new findings, ideas, and theories (NBPTS, 1998 p. 3). The movement toward expecting National Board Certification will continue to grow in the years to come. A strong component of this process is reflection. According to a limited number of teachers who have pursued Board Certification, reflection has been one of the most difficult sections to complete. We believe this to be the result of very limited instruction in and experience with reflective thinking. Thus, teacher education programs have the responsibility to prepare pre-service teachers to be successful and effective in the classroom and to be successful in the completion of Board Certification.

To meet the challenge of preparing teachers for modern American schools, teacher education programs must be designed to prepare graduates who are both capable in areas of academic content and reflective adaptability and synthesis. A thorough understanding of subject content, along with well-developed capacities in instruction, classroom management, evaluation, and educational applications of technology are essential to successful teaching. However, it is equally essential that prospective teachers develop the ability to reflect upon their learning and teaching. This will help to ensure that reflective practice "in-action" and "on-action" will be used systematically as vehicles for learning and continued professional growth. Pre-service teacher preparation programs must be purposefully designed to produce reflective teachers who can reflect upon their practice to extend their knowledge, become better teachers, and refine their philosophies of teaching.

BIBLIOGRAPHY

Dewey, J. (1933). *How we think* (rev.ed.). Lexington, MA: D.C. Heath.

Eby, J. (1997). *Reflective teaching, planning, teaching, and evaluation for the elementary school* (2nd ed.). Upper Saddle Creek, NJ: Prentice-Hall.

National board for professional teaching standards: Early childhood/Generalist standards. (1998). Washington, DC.

National board for professional teaching standards: What every teacher should know. (1998). Washington, D.C.

Schon, D. (1987). *Educating the reflective practitioner.* San Francisco, CA: Jossey-Bass.



U.S. Department of Education
Office of Educational Research and Improvement (OERI)
National Library of Education (NLE)
Educational Resources Information Center (ERIC)



REPRODUCTION RELEASE

(Specific Document)

I. DOCUMENT IDENTIFICATION:

Title: <i>Reflection is Not Description: Cultivating Reflection with Pre-Service Teachers</i>	
Author(s): <i>Sharon Kraus / Kathy Butler</i>	
Corporate Source: <i>Glenville State College, Glenville, WV</i>	Publication Date: <i>Feb. 2000</i>

II. REPRODUCTION RELEASE:

In order to disseminate as widely as possible timely and significant materials of interest to the educational community, documents announced in the monthly abstract journal of the ERIC system, *Resources in Education* (RIE), are usually made available to users in microfiche, reproduced paper copy, and electronic media, and sold through the ERIC Document Reproduction Service (EDRS). Credit is given to the source of each document, and, if reproduction release is granted, one of the following notices is affixed to the document.

If permission is granted to reproduce and disseminate the identified document, please CHECK ONE of the following three options and sign at the bottom of the page.

The sample sticker shown below will be affixed to all Level 1 documents

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY <i>Sample</i> TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
--

Level 1



Check here for Level 1 release, permitting reproduction and dissemination in microfiche or other ERIC archival media (e.g., electronic) and paper copy.

The sample sticker shown below will be affixed to all Level 2A documents

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN MICROFICHE, AND IN ELECTRONIC MEDIA FOR ERIC COLLECTION SUBSCRIBERS ONLY, HAS BEEN GRANTED BY <i>Sample</i> TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

2A

Level 2A



Check here for Level 2A release, permitting reproduction and dissemination in microfiche and in electronic media for ERIC archival collection subscribers only

The sample sticker shown below will be affixed to all Level 2B documents

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY <i>Sample</i> TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

2B

Level 2B



Check here for Level 2B release, permitting reproduction and dissemination in microfiche only

Documents will be processed as indicated provided reproduction quality permits.
If permission to reproduce is granted, but no box is checked, documents will be processed at Level 1.

I hereby grant to the Educational Resources Information Center (ERIC) nonexclusive permission to reproduce and disseminate this document as indicated above. Reproduction from the ERIC microfiche or electronic media by persons other than ERIC employees and its system contractors requires permission from the copyright holder. Exception is made for non-profit reproduction by libraries and other service agencies to satisfy information needs of educators in response to discrete inquiries.

Sign
here, →
please

Signature: <i>Sharon Kraus / Kathy Butler</i>	Printed Name/Position/Title: <i>Sharon Kraus - Professor of Reading</i>	
Organization/Address: <i>Glenville State College Glenville, WV</i>	Telephone: <i>(304) 462-4119</i>	FAX: <i>(304) 462-5192</i>
	E-Mail Address:	Date: <i>Feb. 27, 2000</i>

III. DOCUMENT AVAILABILITY INFORMATION (FROM NON-ERIC SOURCE):

If permission to reproduce is not granted to ERIC, or, if you wish ERIC to cite the availability of the document from another source, please provide the following information regarding the availability of the document. (ERIC will not announce a document unless it is publicly available, and a dependable source can be specified. Contributors should also be aware that ERIC selection criteria are significantly more stringent for documents that cannot be made available through EDRS.)

Publisher/Distributor:
Address:
Price:

IV. REFERRAL OF ERIC TO COPYRIGHT/REPRODUCTION RIGHTS HOLDER:

If the right to grant this reproduction release is held by someone other than the addressee, please provide the appropriate name and address:

Name:
Address:

V. WHERE TO SEND THIS FORM:

<p>Send this form to the following ERIC Clearinghouse:</p> <p style="text-align: center;">ERIC CLEARINGHOUSE ON TEACHING AND TEACHER EDUCATION 1307 New York Avenue, NW, Suite 300 Washington, DC 20005-4701</p>

However, if solicited by the ERIC Facility, or if making an unsolicited contribution to ERIC, return this form (and the document being contributed) to:

**ERIC Processing and Reference Facility
1100 West Street, 2nd Floor
Laurel, Maryland 20707-3598**

Telephone: 301-497-4080
Toll Free: 800-799-3742
FAX: 301-953-0263
e-mail: ericfac@inet.ed.gov
WWW: <http://ericfac.piccard.csc.com>